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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,856	03/03/2005	Jaime Prat Urreiztieta	G80-032US	5421

21706 7590 03/05/2007

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EXAMINER	
LIN, KUANG Y	
ART UNIT	**PAPER NUMBER**
1725	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,856	PRAT URREIZTIETA, JAIME	
	Examiner	Art Unit	
	Kuang Y. Lin	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over either US 6,197,850 to Posada Fernandez et al. or US 6,360,808 to Twardowska et al. and further in view of WO 00/73236 to Skerdi (or the corresponding US 6,972,059) and US 3,815,665 to Baur.

Each of the primary references substantially shows the invention as claimed except that their exothermic compositions contain fluoride and that they do not show to form the sleeve as a single piece. However, WO '236 shows that it is desirable to use a fluoride free exothermic composition for forming feeder due to environmental reason. The composition contains aluminum and magnesium as fuel. It would have been obvious to use the exothermic composition of the primary reference free of fluoride and containing aluminum and magnesium as fuel in view of WO '236. (Fluoride functions as a catalyst (see Norton, col. 3, line 36+ and Takashima, col. 4, line 38+. The additional use of magnesium as fuel in WO' 236 is to act as igniting primer (see Montgomery, col. I, line 24+) to compensate the function of fluoride). Further, US '665 shows that it is conventional to form the exothermic sleeve as a single piece. Apparently, forming the sleeve and the breaker core as a single piece has an advantage over the sleeve formed from a multiple pieces in that it does not require an additional

assembling step for forming the sleeve and thus the foundry operation is simpler. It would have been obvious to form the sleeve and the breaker core of the primary references as a single piece in view of the advantage.

3. Claims 1-12 are also rejected under 35 U.S.C. 103(a) as being unpatentable over either US 6,197,850 to Posada Fernandez et al. or US 6,360,808 to Twardowska et al. and further in view of WO 00/73236 to Skerdi (or the corresponding US 6,972,059) and DE 31 13 229.

Each of the primary references substantially shows the invention as claimed except that their exothermic compositions contain fluoride and that they do not show to form the sleeve as a single piece. However, WO '236 shows that it is desirable to use a fluoride free exothermic composition for forming feeder due to environmental reason. The composition contains aluminum and magnesium as fuel. It would have been obvious to use the exothermic composition of the primary reference free of fluoride and containing aluminum and magnesium as fuel in view of WO '236. (Fluoride functions as a catalyst (see Norton, col. 3, line 36+ and Takashima, col. 4, line 38+. The additional use of magnesium as fuel in WO' 236 is to act as igniting primer (see Montgomery, col. I, line 24+) to compensate the function of fluoride). Further, DE '229 shows that it is conventional to form the exothermic sleeve as a single piece. Apparently, forming the sleeve and the breaker core as a single piece has an advantage over the sleeve formed from a multiple pieces in that it does not require an additional assembling step for forming the sleeve and thus the foundry operation is simpler.

It would have been obvious to form the sleeve and the breaker core of the primary references as a single piece in view of the advantage.

4. Applicant's arguments filed Feb. 12, 2007 have been fully considered but they are not persuasive.

a. Applicant's main argument, as appearing in the junction paragraph between pages 4 and 5 of the amendment, is that "Skerdi explicitly discourages the use of fluoride-free exothermic feeder as it has a number of disadvantages, including the occurrence of unwanted reactions and formation of a so-call 'hollow fire'" and "Skerdi suggests an exothermic feeder or feeder composition that contains an amount of fluoride". However, contrary to applicant's belief, Skerdi does not discourage the use of fluoride-free exothermic composition for forming the feeder. What Skerdi does is to modify the fluoride-free exothermic composition to solve the "hollow fire" problem (col. 2, lines 5-9). Skerdi uses an exothermic composition which is essentially free of fluoride-containing fluxes (col. 2, lines 17-26). "Essentially free" is defined as having a fluoride content below 1.0, preferably below 0.5, most preferably below 0.1% by weight (col. 2, lines 27-29). Below 0.1% includes 0%. Thus, Skerdi prefers to use an exothermic composition as low fluoride impurity as possible and most preferably a composition which is free of fluoride impurity whenever it available as evident from the fact that **None of the exothermic compositions disclosed in the patent comprises fluoride.**

b. In page 5, 2nd paragraph of the amendment applicant stated that the feeder of DE '229 only has a single opening. However, it is conventional to form a feeder having an opening at both ends, see for example, US '665 to Baur.

c. The Rule 132 Declaration is not persuasive in that there is no evidence the increase in sale is due solely to the use of different composition for obtaining a better cast product as compared with the conventional one and not due to the lowing of the price of the feeder due to the lower raw material cost; if the increase of sale were due to lowing of price which due to the lower raw material cost, either due to the exothermic composition or the composition of the plug, the scope of the claim does not set forth the specific composition(s). Further, there is no data showing the advertisement expenses for the conventional sand feeder and the instant feeder, i.e. the increase in sale could be due to the promotion. Also, it stated in the Declaration that the increase in market demand is because the instant feeder avoiding efficiently the graphite deformation trouble. However, the specification does not disclose and the scope of the claim does not include that feature.

d. It states in the Declaration that the claimed subject matter solved a problem that was long standing in the art. However, there is no showing that others of ordinary skill in the art were working on the problem and if so, for how long. In addition, there is no evidence that if persons skilled in the art who were presumably working on the problem knew of the teachings of the above cited references, they would still be unable to solve the problem. See MPEP § 716.04.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuang Y. Lin whose telephone number is 571-272-1179. The examiner can normally be reached on Monday-Friday, 10:00-6:30,.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kuang Y. Lin
Primary Examiner
Art Unit 1725

2-28-07